

## Permit Fact Sheet

### General Information

Permit Number:	WI-0026379-09-0
Permittee Name:	Waupaca Foundry Inc Plant 1
Address:	406 N Division St
City/State/Zip:	Waupaca WI 54981
Discharge Location:	East bank of the Waupaca River, located in the Waupaca River Watershed (WR05) in the Wolf River Basin, approximately 200 yards North of the Water Street Bridge
Receiving Water:	Waupaca River
Stream Flow (Q <sub>7,10</sub> ):	77 cfs
Stream Classification:	Warm Water Sport Fish (WWSF) community, non-public water supply

### Facility Description

The facility produces gray iron castings using a cupola iron melting and green sand molding process. No additives are used in the wastewater that is discharged. Sanitary wastes are discharged to the City of Waupaca. The water supply is from the City of Waupaca. Outfall 001 consists of noncontact cooling water (NCCW) from production machinery and storm water. Outfall 002 is for emergency discharge of NCCW from an emergency power outage diversion of Outfall 001 and once-through cooling water from an emergency power outage diversion from the cupola and molding machines. No treatment is given to the wastewater.

### Substantial Compliance Determination

**Enforcement During Last Permit:** There were no formal enforcement actions taken during the previous permit term.

**After a desk top review of all discharge monitoring reports and a site visit on 11/8/21, this facility has been found to be in substantial compliance with their current permit.**

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	Average of 8,887 gpd (January – December, 2021)	At Sampling Point 001, which is located in the Water/Blower Room, noncontact cooling water (NCCW) shall be monitored prior to discharge to the Waupaca River via Outfall 001. Outfall 001 is located on the East bank of the Waupaca River, 200 yards north of the Water Street Bridge.
002	One time discharge of 183,000 gallons during January – December, 2021 on 8/2/21  This Outfall was only utilized twice during the previous permit term.	At Sampling Point 002, which is located at the overflow weir of the sediment basin on the North side of the facility, noncontact cooling water (NCCW) from an emergency power outage diversion of Outfall 001 and once-through cooling water from an emergency power outage diversion from the cupola and molding machines shall be monitored for flow prior to discharge to the Waupaca River via Outfall 002. TSS and Phosphorus shall be calculated using the

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
		monthly average concentration values for TSS and Phosphorus from Outfall 001 during the same month of discharge, as both outfalls discharge substantially equivalent wastewaters. Outfall 002 is located at the overflow weir of the sediment basin on the North side of the facility.

## 1 Surface Water - Proposed Monitoring and Limitations

### Sample Point Number: 001- Noncontact Cooling Water

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
pH Field	Daily Max	9.0 su	Annual	Grab	
pH Field	Daily Min	6.0 su	Annual	Grab	
Suspended Solids, Total		mg/L	Monthly	24-Hr Flow Prop Comp	See Section 1.2.1.1 in the permit
Suspended Solids, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of TSS and report on the last day of the month on the DMR. See TMDL Calculations section in the permit.
Suspended Solids, Total	Annual Total	6,062 lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of TSS discharged and report on the last day of the month on the DMR. See TMDL Calculations section in the permit.
Phosphorus, Total		mg/L	Monthly	24-Hr Flow Prop Comp	See Section 1.2.1.1 in the permit

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See TMDL Calculations section in the permit.
Phosphorus, Total	Annual Total	37 lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the DMR. See TMDL Calculations section in the permit.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only required January-December 2025. See Section 1.2.1.1 in the permit
Temperature		mg/L	Weekly	Grab	Monitoring only required January-December 2025.

### Changes from Previous Permit:

- Change flow monitoring to daily/whenever discharge occurs.
- Increased total suspended solids monitoring and addition of an annual total mass limit due to the UFWRB TMDL.
- Addition of total phosphorus monitoring and an annual total mass limit due to the UFWRB TMDL.
- Addition of chloride monitoring for 1 year.
- Addition of temperature monitoring for 1 year.
- Removal of oil & grease monitoring.
- Removal of zinc monitoring.

### Explanation of Limits and Monitoring Requirements

#### Water Quality Based Limits and WET Requirements

Refer to the WQBEL memo for the detailed calculations, prepared by the Water Quality Bureau dated December 23, 2021, used for this reissuance.

**Phosphorus TMDL Limits** – Mass based phosphorus limits of 37 lbs/yr as an annual total have been added to the permit to comply with requirements of the Upper Fox Wolf River Basin (UFWRB) TMDL. Effluent concentration (mg/L) shall be monitored and reported monthly upon permit reissuance and will be used to calculate amounts reported for mass-based limits. An additional reporting requirement for lbs/month will be used to calculate the facility's 12-month rolling sum of total monthly discharge, which can be compared directly to the facility's designated WLA.

**Total Suspended Solids TMDL Limits** – Mass based TSS limits of 6,062 lbs/yr as an annual total have been added to the permit to comply with requirements of the Upper Fox Wolf River Basin (UFWRB) TMDL. Effluent concentration (mg/L) shall be monitored and reported monthly upon permit reissuance and will be used to calculate amounts reported for mass-based limits. An additional reporting requirement for lbs/month will be used to calculate the facility's 12-month rolling sum of total monthly discharge, which can be compared directly to the facility's designated WLA.

**Upper Fox Wolf River Basin (UFWRB) Total Maximum Daily Load (TMDL)** – The permitted facility is located within the Upper Fox Wolf River Basin Total Maximum Daily Load (TMDL), which was approved by EPA February 27, 2020. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus and total suspended solids that can be discharged and still protect water quality. The final effluent limits and monitoring expressed in the permit were derived from and comply with the applicable water quality criterion and are consistent with the assumptions and requirements of the EPA-approved WLAs in the TMDL.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the Department's 2020 *TMDL Implementation Guidance for Wastewater Permits*, TMDL limits must be given in the permit that are consistent with the TMDL WLA permit limits derived from TMDL and need to be expressed as specified by 40 CFR 122.45 (d), s. NR 212.76 (4), and s. NR 205.065 (7), Wis. Adm. Code, unless determined to be impracticable. Impracticability has already been determined for phosphorus limits as laid out in the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at <https://prodoasint.dnr.wi.gov/swims/downloadDocument.do?id=167886175>).

**Thermal** – Thermal rules became effective 10/1/2010. Requirements for Temperature are included in NR 102 Subchapter II Water Quality Standards for Temperature and NR 106 Subchapter V Effluent Limitations for Temperature. Thermal discharges must meet the Public Health criterion of 120 degrees F and the Fish & Aquatic Life criteria which are established to protect aquatic communities from lethal and sub-lethal thermal effects. Due to the available flow for dilution, thermal limits are not needed during this permit term. Weekly temperature monitoring for one year during the permit term is included to determine the need for temperature limits at the next permit reissuance.

**Whole Effluent Toxicity (WET)** – WET testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09, Wis. Adm. Code, as revised August 2016. The discharge is comprised primarily of NCCW and stormwater; therefore, there is a very low risk of toxicity and WET testing is not included this permit term.

**Chloride** – Acute and chronic chloride toxicity criteria for the protection of aquatic life are included in Tables 1 and 5 of ch. NR 105, Wis. Adm. Code. Subchapter VII of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for chloride. The permittee's effluent data for chloride shows that effluent limits are not needed this permit term. Monthly monitoring for one year during the permit term is included to ensure that 11 sample results are available at the next permit reissuance to meet the data requirements of s. NR 106.85, Wis. Adm. Code.

### **Categorical Limits**

**Phosphorus** – Subchapter II of Chapter NR 217, Wis. Adm. Code, requires industrial treatment facilities that discharge greater than 60 pounds of Total Phosphorus per month to comply with a monthly average limit of 1.0 mg/L expressed as a 12-month rolling average, or an approved alternative concentration limit. The phosphorus loading is less than 60 lbs/month, which is the threshold for industrial facilities in accordance with s. NR 217.04(1)(a)2, Wis. Adm. Code, therefore, a technology-based limit is not required.

## **Sample Point Number: 002- Emergency NCCW to Outfall 002**

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Quarterly	Total Daily	Sample daily when discharging under

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					emergency power outages.
Suspended Solids, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of TSS and report on the last day of the month on the DMR. See Section 1.2.2.1 and TMDL Calculations section in the permit.
Suspended Solids, Total	Annual Total	6,062 lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of TSS discharged and report on the last day of the month on the DMR. See Section 1.2.2.1 and TMDL Calculations section in the permit.
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See Section 1.2.2.1 and TMDL Calculations section in the permit.
Phosphorus, Total	Annual Total	37 lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the DMR. See Section 1.2.2.1 and TMDL Calculations section in the permit.

### Changes from Previous Permit:

- Addition of total suspended solids reporting when discharging under emergency power outages and an annual total mass limit due to the UFWRB TMDL.
- Addition of total phosphorus reporting when discharging under emergency power outages and an annual total mass limit due to the UFWRB TMDL.

## Explanation of Limits and Monitoring Requirements

### Water Quality Based Limits and WET Requirements

Refer to the WQBEL memo for the detailed calculations, prepared by the Water Quality Bureau dated December 23, 2021, used for this reissuance.

**Phosphorus TMDL Limits** – Mass based phosphorus limits of 37 lbs/yr as an annual total have been added to the permit to comply with requirements of the Upper Fox Wolf River Basin (UFWRB) TMDL. Effluent concentration (mg/L) shall be monitored and reported monthly at Outfall 001 upon permit reissuance and will be used to calculate amounts reported for mass-based limits at Outfall 002. An additional reporting requirement for lbs/month will be used to calculate the facility's 12-month rolling sum of total monthly discharge, which can be compared directly to the facility's designated WLA.

**Total Suspended Solids TMDL Limits** – Mass based TSS limits of 6,062 lbs/yr as an annual total have been added to the permit to comply with requirements of the Upper Fox Wolf River Basin (UFWRB) TMDL. Effluent concentration (mg/L) shall be monitored and reported monthly at Outfall 001 upon permit reissuance and will be used to calculate amounts reported for mass-based limits at Outfall 002. An additional reporting requirement for lbs/month will be used to calculate the facility's 12-month rolling sum of total monthly discharge, which can be compared directly to the facility's designated WLA.

**Upper Fox Wolf River Basin (UFWRB) Total Maximum Daily Load (TMDL)** – The permitted facility is located within the Upper Fox Wolf River Basin Total Maximum Daily Load (TMDL), which was approved by EPA February 27, 2020. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus and total suspended solids that can be discharged and still protect water quality. The final effluent limits and monitoring expressed in the permit were derived from and comply with the applicable water quality criterion and are consistent with the assumptions and requirements of the EPA-approved WLAs in the TMDL.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the Department's 2020 *TMDL Implementation Guidance for Wastewater Permits*, TMDL limits must be given in the permit that are consistent with the TMDL WLA permit limits derived from TMDL and need to be expressed as specified by 40 CFR 122.45 (d), s. NR 212.76 (4), and s. NR 205.065 (7), Wis. Adm. Code, unless determined to be impracticable. Impracticability has already been determined for phosphorus limits as laid out in the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at <https://prodoasint.dnr.wi.gov/swims/downloadDocument.do?id=167886175>).

### Categorical Limits

**Phosphorus** – Subchapter II of Chapter NR 217, Wis. Adm. Code, requires industrial treatment facilities that discharge greater than 60 pounds of Total Phosphorus per month to comply with a monthly average limit of 1.0 mg/L expressed as a 12-month rolling average, or an approved alternative concentration limit. The phosphorus loading is less than 60 lbs/month, which is the threshold for industrial facilities in accordance with s. NR 217.04(1)(a)2, Wis. Adm. Code, therefore, a technology-based limit is not required.

## Attachments:

Water Quality-Based Effluent Limits memo, by Michael Polkinghorn, Water Resources Engineer, dated 12/23/21

## Proposed Expiration Date:

March 31, 2027

## **Justification of Any Waivers from Permit Application Requirements:**

No waivers from permit application requirements were granted.

**Prepared By:** Sarah Donoughe, Wastewater Specialist

**Date:** January 21, 2022

**Revised:** February 15, 2022